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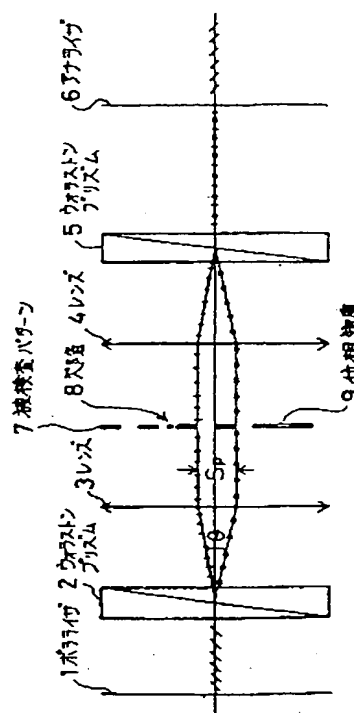
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TITLE : INSPECTING METHOD FOR PERIODIC
PATTERN



ABSTRACT : PURPOSE: To detect a defect of an optional periodic pattern without emphasizing the outer peripheral part of the periodic pattern by using an optical system wherein the shear quantity of a common optical path type dual light beam interferometer is equalized to the array pitch of unit patterns.

CONSTITUTION: The common optical path type dual light beam interferometer consists of a polarizer 1, Wollaston prisms 2 and 5, lenses 3, 4, and an analyzer 6. Then linear polarized light passed through the polarizer 1 becomes two light beams which shift by SP at right angles to the optical axis through the prism 2 and lens 3 and the intensity distribution is varied by a sample 7 which has periodic openings. Then only the SP is returned by the lens 4 and prism 5 to cause interference on the analyzer 6. Then if the sample 7 has no defect, the light beam of interference 2 becomes equal in pitch with the shear quantity SP, so the phase and intensity are equal and the polarizer 1 and analyzer 6 are in orthogonal relation, so that the light beams cancel each other and become dark. If the sample has a defect 8 or it there is a transparent material 9 at an opening part, the light beams do not cancel each other completely and a bright point is observed.

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